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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/328,007	06/08/1999	DO-YOUNG KO	Q54451	6191

7590

02/17/2004

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EXAMINER

WONG, ALLEN C

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 02/17/2004

18

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/328,007

Applicant(s)

KO, DO-YOUNG

Examiner

Allen Wong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-3 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The term "switching frequency" is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). Clearly, there is no mentioning of the term "switching frequency", and even if it mentioned in the specification, the term does not provide any novelty.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 1 recites the limitation "switching frequency" in line 11. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1 and 3-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Heimburger (5,889,890).

Regarding claim 1, Heimburger discloses an apparatus for changing a horizontal/vertical scanning frequency in a decoding block for restoring an MPEG signal (fig.2 is the diagram of the apparatus for changing a horizontal/vertical scanning frequency in MPEG decoding) including a prediction memory for storing I picture data (fig.2, element 1 can store I pictures) and forward prediction restored P picture data (fig.2, element 3 can store P and B pictures) and a mean operating unit for generating calculated mean data for bi-directional prediction (see col.4, ln.6 to col.5, ln.9; in fig.2, element 5 calculates the mean data for bi-directional prediction since it evidently obtains the data from the I pictures, stored in memory 1, and the predictive pictures P and B, stored in memory 3), comprising:

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a B picture memory for storing B picture data, the B picture data having been bidirectionally prediction restored by the decoding block (fig.2, element 3 can store B pictures that have been bidirectionally prediction restored);

a prediction memory switching portion for switching data output from the decoding block to the prediction memory or the B picture memory depending on the type of picture (col.4, ln.6 to col.5, ln.9; the data output from the decoding block to the prediction memory or the B picture memory is switched, where there are P pictures, also known as type 2, or B pictures, also known as type 3); and

an output data switching portion for increasing the switching frequency of data stored in the prediction memory and the B picture memory with respect to a general scanning method, using the motion vector of the decoding block, and outputting converted data (col.5, ln.60 to col.7, ln.16; fig.2, element 5 is the motion estimator applies all of the information needed to process the increasing of the switching frequency of data stored in memory 3 and the outputting of the converted data).

Regarding claim 3, Heimburger discloses the output data switching portion performs switching control so as to double the vertical scanning frequency of a video signal by repeating output data twice in units of a picture with respect to a general scanning method (col.5, ln.21-25).

Regarding claim 4, Heimburger discloses wherein the output data switching portion performs switching control so as to repeat data of a corresponding horizontal line of a previous picture between horizontal lines of a picture when the value of a motion vector is no more than a reference value and to insert corresponding line data of

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a previous picture stored in the prediction memory between the horizontal lines of the picture when the value of the motion vector is larger than the reference value (col.19, ln.31 to col.20, ln.53).

Regarding claim 5, Heimburger discloses wherein the output data switching portion performs switching control so as to repeat data of a corresponding horizontal line of a previous picture between horizontal lines of a picture when the value of a motion vector is no more than a reference value and to insert the calculated line mean data of the mean operating portion between the horizontal lines of the picture when the value of the motion vector is larger than the reference value (col.19, ln.31 to col.20, ln.53).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heimburger (5,889,890) in view of Hackett (5,642,170).

Regarding claim 2, Heimburger does not specifically disclose the period of a data read is reduced to half by setting read clock frequencies of the prediction memory and the B picture memory to be two times higher than the read clock frequencies of a general scanning method. However, Hackett teaches the period of a data read is reduced to half by setting read clock frequencies of the prediction memory and the B

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picture memory to be two times higher than the read clock frequencies of a general scanning method (col.4, ln.58-62; the input frequency is 50/60 Hz, then after passing through the motion compensation interpolation apparatus and switch, the reading clock frequency reduces to 50/120 Hz, so clearly, the period of a data read is reduced by 1/2). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Heimburger and Hackett, as a whole, for obtaining high picture quality in an efficient manner.

Contact Information

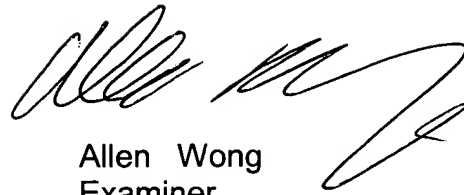
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (703) 306-5978. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on (703) 305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read 'Allen Wong', is written over the printed name.

Allen Wong
Examiner
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AW
2/12/04